

## STORM DRAINAGE FACILITIES IMPROVEMENTS

The City's storm water management program for FY2005-2009 has several new features and projects to accelerate the mission of the program, which is to reduce the risk of structural flooding within the City by protecting properties from flood damage during a 100-year (1% probability) rainfall event. The City program targets local drainage systems and integrates with the primary drainage channels and bayous, which are the responsibility of the Harris County Flood Control District.

This FY2005-2009 program has several major components for implementation:

- Texas Medical Center Projects
- Storm Water Management Program (SWMP) Initial Projects (11+7)
- Localized Drainage Projects -- Small Projects typically less than \$500,000
- New Comprehensive Drainage Plan Prioritized Projects (26)
- Storm Drainage for TxDOT funded street reconstruction (6)

The Texas Medical Center Projects are scheduled for construction in FY2005 & 2006 and total about \$73 million. These projects are planned to use \$46 million of FEMA grant funds to finance 75% of the cost of the projects. The Texas Medical Center is also providing \$5 million towards the projects.

The Storm Water Management Program (SWMP) will undertake eleven (11) program projects in FY 2005 - 2007. In addition, seven other projects (Rustling Oaks & Fonn Villas, Kirkwood & Briar Forest, Whiteheather, Edloe, Japhet Gully, Yorkshire & Nottingham, and Kirby Relief Phase II) are also included in the FY2005-2009 program. These neighborhood drainage projects total about \$120 million for the five-year period.

The Localized Drainage Improvements Projects Program (M-0126) has been in the CIP for many years with small amounts of funding. These smaller projects are now funded at the \$12 million level for the FY2005-2009 program.

There is a backlog of small drainage issues which when resolved can protect many homes from structural flooding. In many cases one section of pipe, a missing overflow section, or inadequate inlets are the only improvements needed to solve the problem. A quick solution will resolve the problems of an otherwise adequate system. On-call engineering and construction contracts will be used to address these problems quickly and cost effectively.

The Comprehensive Drainage Plan has identified approximately \$1.6 billion of inadequate systems in the City to be upgraded. This five-year program will be the first to start prioritizing, scoping, designing, and constructing solutions to the inadequacies identified for this long-term program. The 26 projects selected to start the program have the highest numbers of flood-damaged properties by drainage area. Each project will be designed to keep the localized drainage in the piping or street sheet flow system to protect the structures from flooding during the 100-year rainfall event. Properties within a riverine 100-year flood zone will be protected from local drainage flooding, but may not be protected from the riverine flooding until the Harris County Flood Control District projects are completed.

Street reconstruction projects sponsored by TxDOT require the local sponsor to pay for storm drainage improvements associated with the paving project. The FY2005-2009 program has identified \$13 million in six (6) projects that will support storm drainage to complete these projects.

While the project is not shown in the FY2005-2009 CIP at this time, the City has requested the Corps of Engineers to study the possibility of incorporating storm water detention parks throughout the City to mitigate the increased flow from City drainage and street projects. Without a regional approach, the detention is incorporated into each individual project. A regional approach may be more cost effective and add park amenities to the City landscape, while saving the City on the cost of mitigation. This study will be 100% funded by the Corps. As the project progresses beyond the study stage, local matching funds may be required beyond FY2005. The request is currently under review by the Corps of Engineers in Galveston.